

## ABSTRACT OF THE DISCLOSURE

The invention is intended to always ensure a sufficient level of patient positioning accuracy regardless of the skills of individual operators. In a patient positioning device for positioning a patient couch 59 and irradiating an ion beam toward a tumor in the body of a patient 8 from a particle beam irradiation section 4, the patient positioning device comprises an X-ray emission device 26 for emitting an X-ray along a beam line m from the particle beam irradiation section 4, an X-ray image capturing device 29 for receiving the X-ray and processing an X-ray image, a display unit 39B for displaying a current image of the tumor in accordance with a processed image signal, a display unit 39A for displaying a reference X-ray image of the tumor which is prepared in advance, and a positioning data generator 37 for executing pattern matching between a comparison area A being a part of the reference X-ray image and including an isocenter and a comparison area B or a final comparison area B in the current image, thereby producing data used for positioning of the patient couch 59 during irradiation.